

AMENDMENTS TO THE CLAIMS

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims in the application.

Please amend claims 34 through 37 as follows:

1 1. (Previously Presented) A method for interconnecting wired and wireless phone services,
2 the method comprising the steps of:
3 registering at least one of a plurality of wired terminals, and a plurality of public and private
4 mobile communication terminals as extension subscribers, endowing the plurality of wired terminals
5 with first designated wired phone numbers, and endowing the plurality of public and private mobile
6 communication terminals with public wireless phone numbers and endowing, by a wired and
7 wireless interconnecting unit, second designated wired phone numbers which have formats of the
8 first designated wired phone numbers different from formats of the public wireless phone numbers
9 of the public and private mobile communication terminals; and
10 when an arbitrary wired phone number is called and the arbitrary wired phone number is
11 corresponding to a wired phone number of one of the plurality of wired terminals, making a call to
12 the wired terminal corresponding to the arbitrary wired phone number through a wired
13 communication network; and when there is the public and private mobile communication terminal
14 to be simultaneously called with the arbitrary wired phone number interconnectively, making a call
15 to a corresponding public and private mobile communication terminal by a corresponding second

16 designated wired phone number through a mobile communication network.

1 2. (Previously Presented) The method according to claim 1, wherein the step of making a
2 call to the public and private mobile communication terminal comprising the steps of:

3 when the arbitrary wired phone number is called, searching for a database and determining
4 whether there is the public and private mobile communication terminal to be simultaneously called
5 with the wired phone number interconnectively; and

6 when there is the public and private mobile communication terminal to be simultaneously
7 called with the wired phone number interconnectively as a result of the determination, transferring
8 a ring signal to the corresponding wired phone terminal and to the public and private mobile
9 communication terminal, simultaneously.

1 3. (Previously Presented) The method according to claim 2, wherein the step of transferring
2 the ring signal to the public and private mobile communication terminal being performed by the
3 steps of:

4 transferring the ring signal for making a call to the public and private mobile communication
5 terminal through a private base station apparatus which provides the public and private mobile
6 communication terminal with a private wireless environment; and

7 when there is no response from the public and private mobile communication terminal for
8 a predetermined time, transferring the ring signal for making a call to the public and private mobile

9 communication terminal through the public mobile communication network.

1 4. (Previously Presented) The method according to claim 2, wherein said database includes
2 a first wired phone number with which each wired terminal is endowed, a second wired phone
3 number with which each of the public and private mobile communication terminals is endowed, and
4 a public wireless phone number with which each of the public and private mobile communication
5 terminal is endowed through the public mobile communication network.

1 5. (Previously Presented) The method according to claim 2, wherein said database includes
2 first identification information indicating whether the arbitrary wired phone number is a number
3 connected to a wired terminal, second identification information indicating whether the arbitrary
4 wired phone number uses a simultaneous terminating service, and a second wired phone number of
5 said public and private mobile communication terminal which is called by the simultaneous
6 terminating function.

1 6. (Previously Presented) The method according to claim 1, further comprising steps of:
2 when an arbitrary phone number is called, determining whether the corresponding wired
3 phone number is a wired subscriber terminal or not; and
4 when the corresponding wired phone number is not the wired subscriber terminal as a result
5 of the determination, making a call to the public and private mobile communication terminal

6 corresponding to the wired phone number through the mobile communication network.

1 7. (Previously Presented) The method according to claim 1, wherein, in the case that an
2 outgoing request is made from the public and private mobile communication terminal, the method
3 comprising steps of:

4 receiving an outgoing phone number and the public wireless phone number of the public and
5 private mobile communication terminal endowed from the public mobile communication network,
6 from the public and private mobile communication terminal;

7 determining whether a private mobile communication service is used from the outgoing
8 phone number; and

9 when the private mobile communication service is used as a result of the determination,
10 transmitting the second wired phone number with which the corresponding public and private mobile
11 communication terminal is endowed using a caller identification.

1 8. (Previously Presented) The method according to claim 7, wherein, in the case that the
2 outgoing request is made from the public and private mobile communication terminal, the method
3 further comprising step of:

4 when the public mobile communication service is used as the result of the determination,
5 transmitting the public wireless phone number of the public and private mobile communication
6 terminal which is received from said public and private mobile communication terminal using the

7 caller identification.

1 9. (Previously Presented) A method for interconnecting wired and wireless phone services,
2 the method comprising:

3 making a call, at a wireless terminal, to a party associated with a phone;

4 transferring the call generated by the wireless terminal to a wired and wireless
5 interconnecting unit;

6 changing by the wired and wireless interconnecting unit, a caller identification of the call to
7 a virtual wired number with which a wireless terminal is endowed by the wired and wireless
8 interconnecting unit, with the virtual wired number having a format of a wired phone number of a
9 wired terminal and being different from the wired phone number of the wired terminal; and

10 determining whether the phone number of the call is an external outgoing number, the
11 external outgoing number being outside of a mobile zone of the wireless terminal.

1 10. (Original) The method of claim 9, further comprising of storing the call in a message
2 and transferring to the wired and wireless interconnecting unit when the phone number is an external
3 outgoing number.

1 11. (Original) The method of claim 10, further comprising of making a call to an external
2 subscriber of the corresponding phone number by said wired and wireless interconnecting unit.

1 12. (Original) The method of claim 11, further comprising of making a call to an internal
2 subscriber within the mobile zone when the phone number is not an external outgoing number.

3 13. (Previously Presented) The method of claim 12, with said step of transferring of the call
4 generated by the wireless terminal to the wired and wireless interconnecting unit being formed by
5 transferring the call to a mobile gateway of said wired and wireless interconnecting unit through a
6 private base station transceiver subsystem and a private base station controller of said wired and
7 wireless interconnecting unit, said private base station transceiver subsystem constructing a wireless
8 communication path with an arbitrary mobile communication terminal in a service area of said
9 private base station transceiver subsystem and manages wireless resources for the mobile
10 communication.

1 14. (Previously Presented) The method of claim 13, with said step of changing the caller
2 identification of the call being performed by the private base station controller of the wired and
3 wireless interconnecting unit.

1 15. (Previously Presented) The method of claim 14, with said step of determining whether
2 the phone number of the call is the external outgoing number being performed by said mobile
3 gateway.

1 16. (Previously Presented) The method of claim 15, with said step of transferring to the
2 wired and wireless interconnecting unit when the phone number is the external outgoing number,
3 being performed by transferring to a wired exchange of said wired and wireless interconnecting unit
4 when the phone number is the external outgoing number.

1 17. (Previously Presented) The method of claim 9, with said step of transferring of the call
2 generated by the wireless terminal to the wired and wireless interconnecting unit being performed
3 by transferring the call to a mobile gateway of said wired and wireless interconnecting unit through
4 a private base station transceiver subsystem and a private base station controller of said wired and
5 wireless interconnecting unit, said private base station transceiver subsystem constructing a wireless
6 communication path with an arbitrary mobile communication terminal in a service area of said
7 private base station transceiver subsystem and manages wireless resources for the mobile
8 communication.

1 18. (Previously Presented) The method of claim 17, with said step of changing the caller
2 identification of the call being performed by the private base station controller of the wired and
3 wireless interconnecting unit.

1 19. (Previously Presented) The method of claim 18, with said step of determining whether

2 the phone number of the call is an external outgoing number being performed by said mobile
3 gateway.

1 20. (Previously Presented) The method of claim 9, with said step of transferring of the call
2 generated by the wireless terminal to the wired and wireless interconnecting unit being performed
3 by transferring the call to a group exchange of said wired and wireless interconnecting unit through
4 a private base station transceiver subsystem and a private base station controller of said wired and
5 wireless interconnecting unit, said private base station transceiver subsystem constructing a wireless
6 communication path with an arbitrary mobile communication terminal in a service area of said
7 private base station transceiver subsystem and manages wireless resources for the mobile
8 communication, said group exchange endowing each extension subscriber with a wired phone
9 number.

1 21. (Previously Presented) The method of claim 20, with said step of changing the caller
2 identification of the call being performed by the private base station controller of the wired and
3 wireless interconnecting unit

1 22. (Previously Presented) The method of claim 21, with said step of determining whether
2 the phone number of the call is an external outgoing number being performed by said group
3 exchange.

1 23. (Previously Presented) A method for interconnecting wired and wireless phone services,
2 the method comprising:

3 when an arbitrary external subscriber terminal makes a call to an arbitrary wired phone
4 number through a public network, calling a first part of a wired and wireless interconnecting unit
5 with the arbitrary wired phone number through the public network and determining whether the
6 called phone number is a wired subscriber number;

7 when the called phone number is the wired subscriber number, transferring the called phone
8 number to a second part of the wired and wireless interconnecting unit through a wired subscriber
9 circuit; and

10 when the called phone number is not the wired subscriber number, distributing a virtual
11 subscriber circuit and directing the call passing through the virtual subscriber circuit to a wireless
12 terminal, with the virtual subscriber circuit being selected and transferred to the second part of the
13 wired and wireless interconnecting unit, and with the virtual subscriber circuit employing a virtual
14 wired phone number of the wireless terminal, endowed by the wired and wireless interconnecting
15 unit; and distributing the call to the wireless terminal by the endowed virtual wired phone number
16 of the wireless terminal through the virtual subscriber circuit.

1 24. (Previously Presented) The method of claim 23, further comprising of:

2 determining by a second part of the wired and wireless interconnecting unit, whether the

3 called phone number is a multiple terminating number in the reference to a database of the second
4 part.

1 25. (Previously Presented) The method of claim 24, further comprising of when the
2 corresponding phone number is not the multiple terminating number, distributing the call to a wired
3 subscriber.

1 26. (Previously Presented) The method of claim 25, further comprising of, when the
2 corresponding phone number is the multiple terminating number, firstly, distributing the call to the
3 wired subscriber, secondly, requesting, at the second part of the wired and wireless interconnecting
4 unit, a virtual number with the virtual number for the corresponding wired phone number being
5 provided, and the call being distributed to a corresponding wireless terminal.

1 27. (Previously Presented) The method of claim 26, further comprising of:
2 when it is not the wired subscriber number as a result of the determination, selecting the
3 virtual subscriber circuit distributed to the wireless terminal and transferring the selected virtual
4 subscriber circuit to the first part of the wired and wireless connecting unit; and
5 distributing by the first part, the call to the corresponding wireless terminal after selecting
6 the virtual subscriber circuit distributed to the wireless terminal and transferring the virtual
7 subscriber circuit to the first part the wired and wireless connecting unit and the corresponding

8 wireless terminal accordingly responding to the distribution.

1 28. (Previously Presented) The method of claim 27, further comprising of:

2 when an arbitrary subscriber terminal makes a call to an arbitrary wired phone number,
3 receiving by the second part of the wired and wireless interconnecting unit, the corresponding wired
4 phone number and determines whether the called phone number is an incoming call number for an
5 extension subscriber in the second part of the wired and wireless interconnecting unit;

6 when the called phone number is not the extension incoming call, performing a Tandem call
7 and transferring the call to the first part of the wired and wireless interconnecting unit; and

8 when the called phone number is an extension incoming call, determining by the second part
9 of the wired and wireless interconnecting unit whether the corresponding phone number is a wired
10 phone number in said step of determining whether the called phone number is the wired subscriber
11 number.

1 29. (Previously Presented) A method for interconnecting wired and wireless phone service,
2 the method comprising:

3 when an arbitrary external subscriber terminal makes a call to an arbitrary wired phone
4 number through a public network, calling by a first part of a wired and wireless interconnecting unit,
5 the arbitrary wired phone number through the public network and determining whether the called
6 arbitrary phone number is the wired subscriber number;

7 when the called phone number is the wired subscriber number, transferring the called phone
8 number to a second part of said wired and wireless interconnecting unit through a wired subscriber
9 circuit;

10 determining by the second part, whether the arbitrary wired phone number in a database is
11 a multiple terminating number;

12 when the corresponding phone number is the multiple terminating number, firstly distributing
13 the call to the wired subscriber and secondly requesting at the second part of the wired and wireless
14 interconnecting unit a virtual number for a corresponding wireless terminal, with the virtual number
15 being generated by the wired and wireless interconnecting unit and having different a different
16 format compared to a public wireless phone number of the corresponding wireless terminal, and
17 distributing the call to the corresponding wireless terminal by the virtual number;

18 when the wired terminal and the wireless terminal responds in a mobile zone, processing the
19 call according to the response;

20 determining whether there exists a subscriber in the mobile zone when there is no response
21 to the call in the mobile zone;

22 when there does not exist the subscriber in the mobile zone as the response of the wired
23 terminal or wireless terminal does not exist in the mobile zone, directing by the second part of the
24 wired and wireless interconnecting unit, the call to a wireless terminal in a public mobile
25 communication network; and

26 when the subscriber exists in the mobile zone and there is no response to the call in the

27 mobile zone, transmitting a voice information message to the wireless terminal in the mobile zone.

1 30. (Previously Presented) The method of claim 29, further comprising of when the arbitrary
2 phone number is not the multiple terminating number, distributing the call to the wired subscriber.

1 31. (Previously Presented) The method of claim 30, when the called arbitrary phone number
2 is not the wired subscriber number as a result of the determination, selecting the virtual subscriber
3 circuit distributed to the wireless terminal and transferring the selected virtual subscriber circuit to
4 the second part of the wired and wireless interconnecting unit.

1 32. (Previously Presented) The method of claim 29, further comprising of when the called
2 phone number is not the extension incoming call number, transferring the called arbitrary phone
3 number to the first part of the wired and wireless interconnecting unit and the called phone number
4 is a Tandem call number.

1 33. (Previously Presented) The method of claim 29, further comprising of when the
2 arbitrary subscriber terminal makes the call to the arbitrary wired phone number through the public
3 network, the second part of the wired and wireless interconnecting unit receiving the corresponding
4 wired phone number through the public network and determining whether the called phone number
5 is the incoming call number for the extension subscriber in the second part of the wired and wireless

6 interconnecting unit in the step of determining whether the called arbitrary phone number is the
7 wired subscriber number.

1 34. (Currently Amended) ~~A computer-readable storage medium having computer-executable~~
2 ~~instructions for performing a method, the computer-executable instructions~~ An apparatus,
3 comprising:

4 a module for registering at least one of a plurality of wired terminals, and a plurality of public
5 and private mobile communication terminals as extension subscribers, endowing a plurality of wired
6 terminals with first designated wired phone numbers, and for endowing the plurality of public and
7 private mobile communication terminals with public wireless phone numbers and endowing, at a
8 wired and wireless interconnecting unit, second designated wired phone numbers which have
9 formats of the first wired phone numbers different from formats of the public wireless phone
10 numbers of the public and private mobile communication terminals;

11 a module for making a call to said wired terminal corresponding to the wired phone number
12 through a wired communication network, when a wired phone number is called and the arbitrary
13 wired phone number is corresponding to a wired phone number of one of the plurality of wired
14 terminals; and

15 a module for making a call to the corresponding mobile communication terminal by the
16 corresponding second designated wired phone number through a mobile communication network
17 when there is said mobile communication terminal to be simultaneously called with the wired phone

18 number interconnectively.

1 35. (Currently Amended) The apparatus ~~computer-readable storage medium having~~
2 ~~computer-executable instructions for performing a method of claim 34, wherein the step of the~~
3 module for making of the call to the mobile communication terminal comprising comprises a sub-
4 module for ~~[[of]]~~:

5 when a wired phone number is called, determining whether there is the mobile
6 communication terminal to be simultaneously called with the wired phone number interconnectively.

1 36. (Currently Amended) The apparatus ~~apparatus~~ ~~computer-readable storage medium~~
2 ~~having computer-executable instructions for performing a method of claim 35, wherein with the~~
3 module for making of the call to the mobile communication terminal further comprising ~~[[of]]~~ a sub-
4 module for:

5 when there is the mobile communication terminal to be simultaneously called with the wired
6 phone number interconnectively as a result of the determination, transferring a ring signal to the
7 corresponding wired phone terminal and to the mobile communication terminal, simultaneously.

1 37. (Currently Amended) A computer-readable storage medium having stored thereon a data
2 structure, the computer-readable storage medium comprising:
3 a first storage module for storing a first field containing data representing, when an arbitrary

4 external subscriber terminal makes a call to an arbitrary wired phone number through a public
5 network, calling a first part of a wired and wireless interconnecting unit with a corresponding wired
6 phone number through the public network and determining whether the called phone number is a
7 wired subscriber number;

8 a second storage module for storing a second field containing data representing, when the
9 called phone number is the wired subscriber number, the called phone number is transferred to a
10 second part of the wired and wireless interconnecting unit through a wired subscriber circuit; and

11 a third storage module for storing a third field containing data representing, when the called
12 phone number is not the wired subscriber number, distributing a virtual subscriber circuit to a
13 wireless terminal and directing the call passing through the virtual subscriber circuit, with the virtual
14 subscriber circuit being selected and transferred to the second part of the wired and wireless
15 interconnecting unit, and with the virtual subscriber circuit employing a virtual phone number of the
16 wireless terminal, endowed by the wired and wireless interconnecting unit, the virtual phone number
17 having a format of the wired phone number different from a format of a public wireless phone
18 number of the wireless terminal; and distributing the call to the wireless terminal by the endowed
virtual phone number of the wireless terminal.